

Energy Firm Teams with Pennsylvania Driller to Build Deep Natural Gas Rig

By Jim Balow, The Charleston Gazette, W.Va., Oct. 23

It stands 120 feet tall -- the equivalent of a 12-story building. Yet it can be folded up into a compact package no more than 8 feet high in order to be towed up the narrowest of back-country hollows.

Christened the "Deep Rig" in a ceremony Friday involving Gov. Bob Wise, its name indicates its purpose -- a drilling rig designed specifically for natural gas buried three miles down.

For the past few months, people driving up Interstate 79 from Charleston have been able to see the blue and yellow Deep Rig taking shape in the yard of S.W. Jack Drilling Co. at Elkview, just south of the Elkview interchange. The rig is a joint project of S.W. Jack, based in Indiana, Pa., and Energy Corp. of America.

John Mork, founder and CEO of Energy Corp. of America, talks in superlatives when discussing the rig.

"The lift capacity is amazing," he told a couple of visitors last week. "It will lift a couple hundred tons."

"The human mind has difficulty grasping things," he said. The steel pipe used to hold the drill bit seems quite sturdy -- up to 4 1/2 inches in diameter. But when strung together 3 miles long, "the length-to-width ratio is less than a human hair," he said.

Mork's company is the parent of Eastern Associated Oil and Gas, a longtime gas and oil exploration and production firm with headquarters in Kanawha City that has been drilling for natural gas in the Appalachian Basin for years.

Traditional Appalachian Basin gas wells are about 5,000 feet, or roughly a mile, deep. "The Appalachian Basin is the oldest basin in the world," Mork said. "Pennsylvania was the Saudi Arabia in the 1880s and 1890s."

But the basin has been pretty well worked over. "The production from one well is very small. The reserves from one well are very small."

That's not to say there's no gas left. Mork plans to drill 75 to 100 shallow wells this year.

But in 1999, geologists from Columbia Natural Resources made an amazing discovery at Vineyard Ridge in Roane County. There, following success in New York state, CNR drillers tapped a highly pressurized pocket of gas in what is called the Trenton-Black River formation three miles deep. Gas gushed from the ground at the rate of 50 million cubic feet a day -- about 100 times the rate of a typical shallow well.

That discovery has set off a boom in Roane and surrounding counties as CNR and other gas companies have scrambled to file permits and drill similar deep wells. Thirty-six companies had filed 222 permit applications in 16 counties as of Sept. 17, according to records compiled by Lee Avary at the West Virginia Geological and Economic Survey.

One factor that has slowed the exploration for deep wells is the lack of proper drilling rigs. Rigs designed for shallow wells simply can't drill that deep. Deep wells take longer to drill, too -- up to two months, compared to about 10 days for a typical shallow well -- so the limited number of deep-well rigs available are tied up longer at each site.

To help overcome those limitations, Mork decided to build his own rig. Actually, he bought an existing rig, a Skytop

Brewster TR800 that had been used in the Gulf Coast area, and adapted it for the Appalachians.

"This rig is built for West Virginia -- this ain't Texas anymore," he said.

"I said, 'I want something I can move around easily. I want something that will drill to 15,000 feet and will be safe.'" He pointed out other innovations that industry insiders might applaud -- the ability to pump either air or "mud" into the hole, the extra height to allow installation of blowout protectors on the wellhead.

Mork took on S.W. Jack as partner in the nearly \$5 million project. "We've been using their services for 25 years," he said. "This is simply more risk than they were willing to take on themselves."

Jim McElwain, president and chief operating officer of S.W. Jack, said the partnership is unique in the industry. "We formed another company, Deep Rig, to buy the rig and get it rigged up. It had been laying idle for 17 years in Arkansas."

McElwain said he was unsure how many man-hours it has taken to get the rig ready.

"The welders and machinists are extremely proud of their work. It's all West Virginia labor. We've had at least eight people working on it full time since January and at times as many as 20, so it's a big undertaking."

For the first drilling project, Eastern Associated and CNR plan to drill a well together in Clay County, Mork said. Eastern Associated plans to drill three more wells with the rig this year, but at other times, S.W. Jack is free to rent the rig to other gas companies.

"It's a pretty nice joint venture," he said. "They operate it. We are the financial partner."

McElwain said Jack Drilling, which he called the largest family-owned driller in the continental United States, should have plenty of work for the rig.

"I think we're going to be busy for the next five years. When you see all the permits that have been filed just in West Virginia, it will take 10 years to get all them drilled."

Mork is proud of the minimal environmental impact that natural gas wells have, especially compared to other extractive energy industries.

"We don't have to put anything on the ground. It's changed a lot since I got started. The well we drill will drain 640 acres. It takes an area 200 feet by 300 feet. When we're done, the whole thing -- the well, a tank and separator -- the area won't be 40 feet by 50 feet."

His companies have already drilled deep wells elsewhere.

"We have a lot of deep wells, but not here. We have drilled successful Trenton-Black River wells outside of West Virginia. We're currently drilling one in Ohio."

When the Deep Rig is done -- it still lacks some finishing touches -- Mork hopes to shave a few days off the typical two months needed to drill an Appalachian deep well.

"I'd say at 12,000 feet, I'd be disappointed if we didn't do it in 30 to 45 days," he said.

To see more of The Charleston Gazette, or to subscribe to the newspaper, go to <http://www.wvgazette.com>

(c) 2001, The Charleston Gazette, W.Va. Distributed by Knight Ridder/Tribune Business News.

Copyright © 2001 by [CyberTech, Inc.](#) All rights reserved.

Energy Central(r) is a registered trademark of CyberTech, Incorporated.

CyberTech does not warrant that the information or services of Energy Central will meet any specific requirements; nor will it be error free or uninterrupted; nor shall CyberTech be liable for any indirect, incidental or consequential damages (including lost data, information or profits) sustained or incurred in connection with the use of, operation of, or inability to use Energy Central.

Contact: 303-782-5510 or service@energycentral.com.

[COMTEX End-User Agreement Provisions](#)